

Optimization of Fragment, Blast and Survivability
Properties of Explosives for Hard Target Applications

R.L. Simpson, R.W. Swansiger, D.M. Hoffman, E. James
Energetic Materials Center
Lawrence Livermore National Laboratory
Livermore, CA 94550
(510) 423-0379
simpson5@llnl.gov

S. Struck, S. Carswell, and Lt. P.J. Mendicki
WL/MNME
Eglin Air Force Base, FL 32542-5910

Abstract

Several new explosives have been developed for hard target and related applications. Materials having energy densities as high as 20 KJ/cc have been made. Mid-scale field trials have been carried out at the Eglin Air Force Base. Fragmentation improvements $\approx 150\%$ that of Tritonal have been attained. A designed material approach was used in the explosives development effort. Mechanical loading on the explosives was hydrodynamically simulated during penetration through concrete to estimate the minimum material insensitivity required. Explosive formulations were designed through optimized thermochemical calculations. Predicted and measured explosive properties will be described.

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